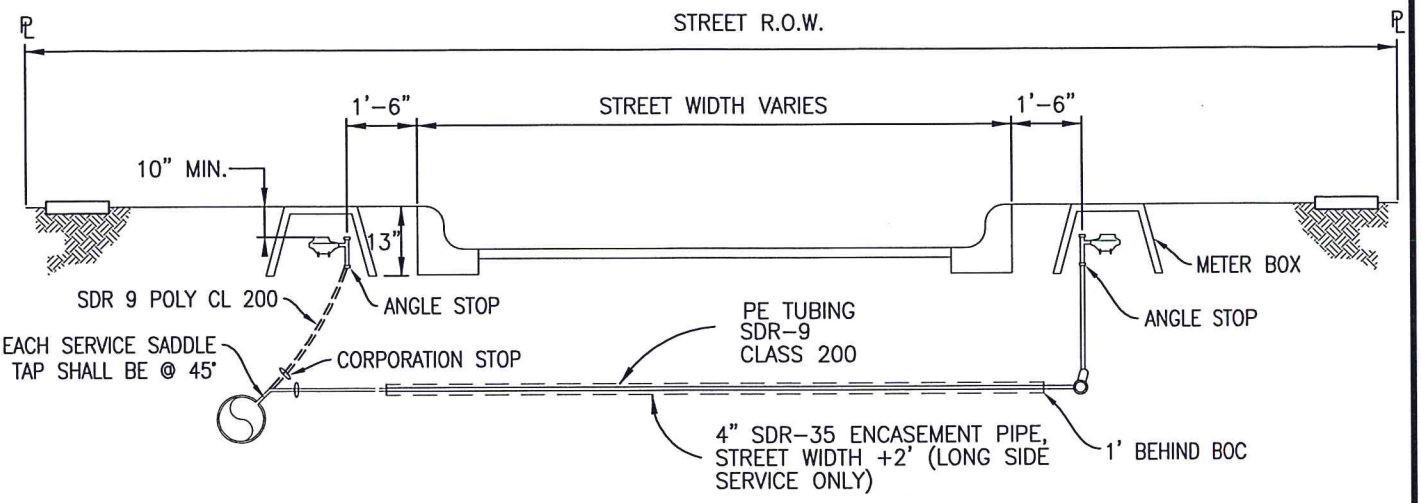


NOTES:

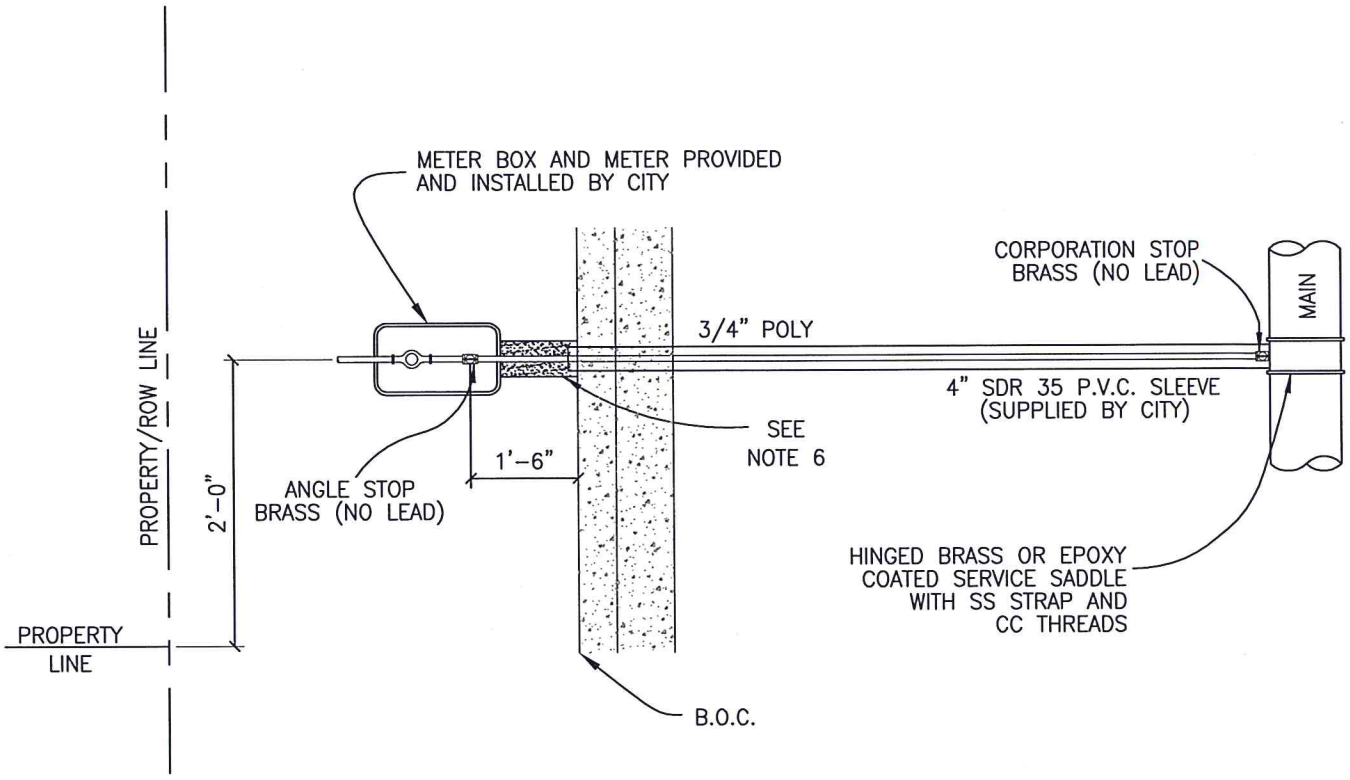
1. SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED A MINIMUM OF 18" OFFSET AND AT THE CENTERLINE.
2. METER BOXES SHALL BE SET TO CONFORM TO FINISHED GRADE.
3. SERVICE LINE MATERIAL SHALL BE SDR–9. CLASS 200 POLYETHYLENE TUBING.
4. ROTATE THE CORPORATION STOP SO THAT THE OPERATING NUT IS ACTUATED FROM THE VERTICAL POSITION RATHER THAN THE HORIZONTAL.
5. SERVICE LINES SHALL BE CONTINUOUS FROM CORPORATION STOP TO ANGLE STOP WITH NO FITTINGS IN BETWEEN.
6. SERVICE CASING SHALL NOT BE INSTALLED BY WATER JETTING UNDER ROADWAY.
7. METER BOX COVER TO BE CAPABLE OF HOUSING IRON AUTOMATIC METER READING DEVICE.

CITY OF KILLEEN
DEPARTMENT OF PUBLIC WORKS

TYPICAL WATER SERVICE ELEVATION

CONSTRUCTION STANDARDS AND DETAILS

W–01
SCALE: N.T.S.
ISSUE DATE: XX–XX–XX



NOTES:

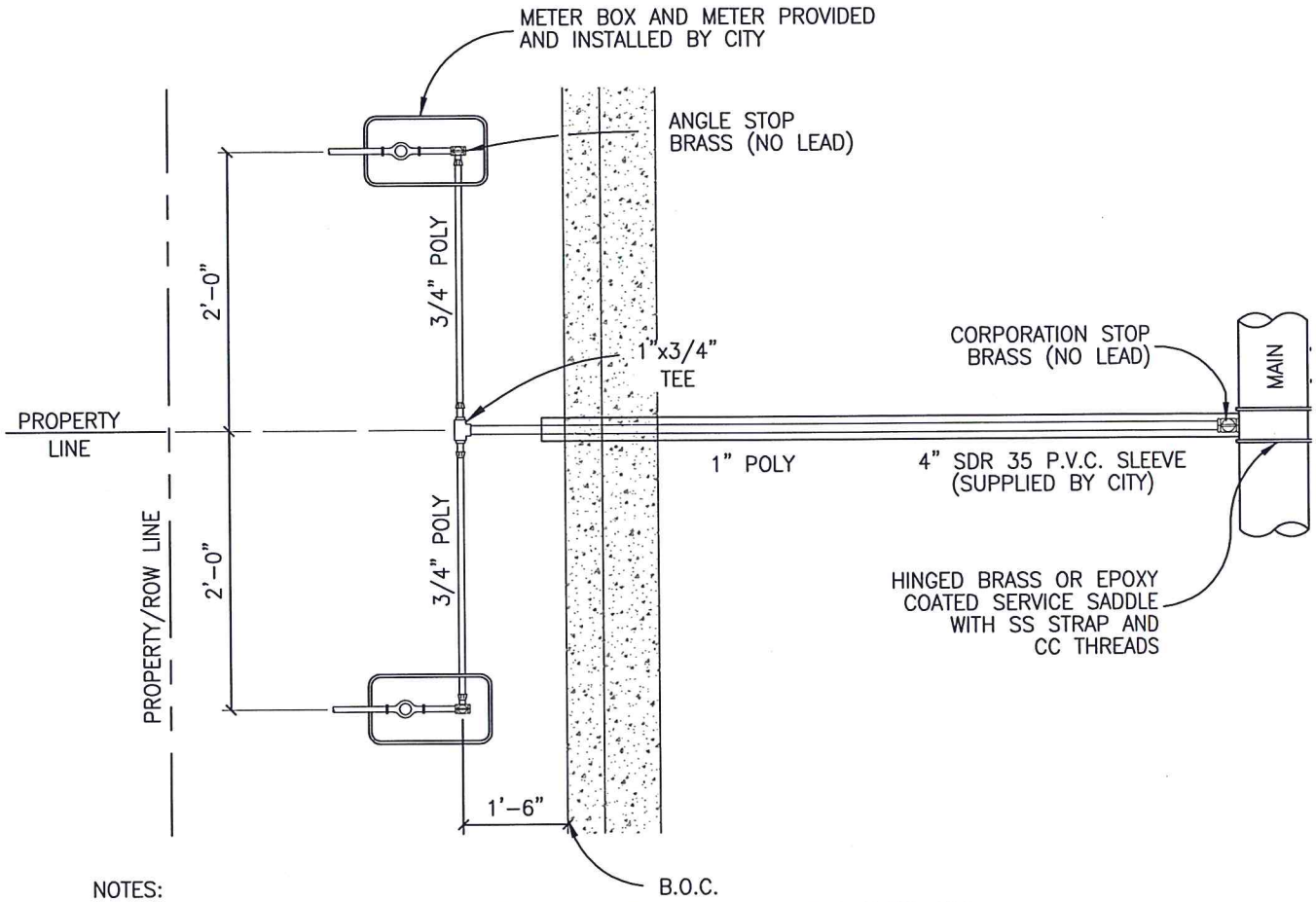
1. SERVICE LINE MATERIAL SHALL BE POLYETHYLENE TUBING SDR 9 CLASS 200.
2. ANGLE STOP SHALL BE 3/4" MINIMUM.
3. MULTIPLE SERVICE/METER INSTALLATIONS OF MORE THAN 2 METERS PER SERVICE AND SERVICE LINES SHALL BE A DOUBLE SERVICE.
4. ALL ANGLE STOPS SHALL BE PROVIDED WITH LOCK WING AND METER NUT.
5. ANGLE STOPS SHALL BE INSTALLED 8" BELOW FINISHED GRADE AND MARKED WITH A 2" X 2" X 48" TREATED WOOD STAKE, PAINTED BLUE.
6. THERE SHALL BE A 6" ENVELOPE OF BEDDING AROUND SERVICE PIPE WITH BASE BACKFILL.
7. ANY VARIATIONS ON FITTINGS MUST BE APPROVED BY CITY STAFF.
8. ALL SERVICE LINES SHALL BE PLACED PERPENDICULAR TO THE ROADWAY.
9. SERVICES SHALL BE STAMPED WITH 'W' IN CURB.
10. SERVICE SADDLE SHALL BE 45° ANGLE.
11. ALL BRASS FITTINGS SHALL COMPLY WITH "NO LEAD" BRASS LAW (SDWA SECTION 1417(A)).

CITY OF KILLEEN
DEPARTMENT OF PUBLIC WORKS

SINGLE WATER SERVICE PLAN

CONSTRUCTION STANDARDS AND DETAILS

W-02
SCALE: N.T.S.
ISSUE DATE: XX-XX-XX



NOTES:

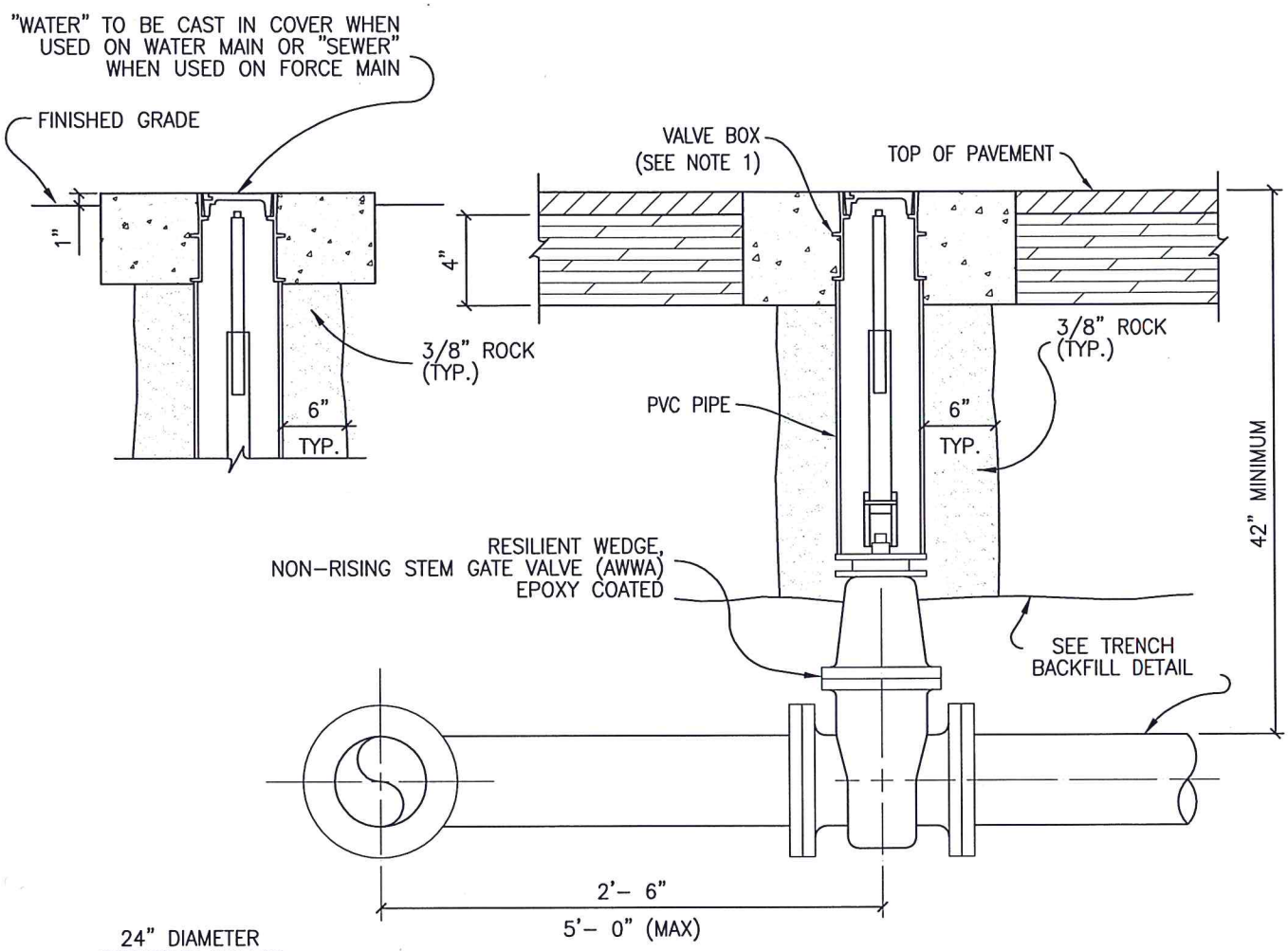
1. SERVICE LINE MATERIAL SHALL BE POLYETHYLENE TUBING SDR 9 CLASS 200.
2. ANGLE STOP SHALL BE 3/4" MINIMUM.
3. MULTIPLE SERVICE/METER INSTALLATIONS OF MORE THAN 2 METERS PER SERVICE AND SERVICE LINES SHALL BE A DOUBLE SERVICE.
4. ALL ANGLE STOPS SHALL BE PROVIDED WITH LOCK WING AND METER NUT.
5. ANGLE STOPS SHALL BE INSTALLED 8" BELOW FINISHED GRADE AND MARKED WITH A 2" X 2" X 48" TREATED WOOD STAKE, PAINTED BLUE.
6. THERE SHALL BE A 6" ENVELOPE OF BEDDING AROUND SERVICE PIPE WITH BASE BACKFILL.
7. ANY VARIATIONS ON FITTINGS MUST BE APPROVED BY CITY STAFF.
8. ALL SERVICE LINES SHALL BE PLACED PERPENDICULAR TO THE ROADWAY.
9. SERVICES SHALL BE STAMPED WITH 'W' IN CURB.
10. SERVICE SADDLE SHALL BE 45° ANGLE.
11. ALL BRASS FITTINGS SHALL COMPLY WITH "NO LEAD" BRASS LAW (SDWA SECTION 1417(A)).

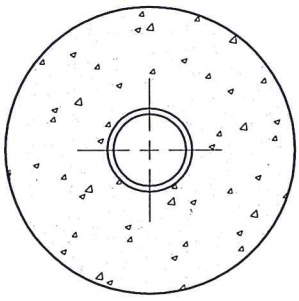
CITY OF KILLEEN
DEPARTMENT OF PUBLIC WORKS

DOUBLE WATER SERVICE PLAN

CONSTRUCTION STANDARDS AND DETAILS

W-03
SCALE: N.T.S.
ISSUE DATE: XX-XX-XX





NOTES:

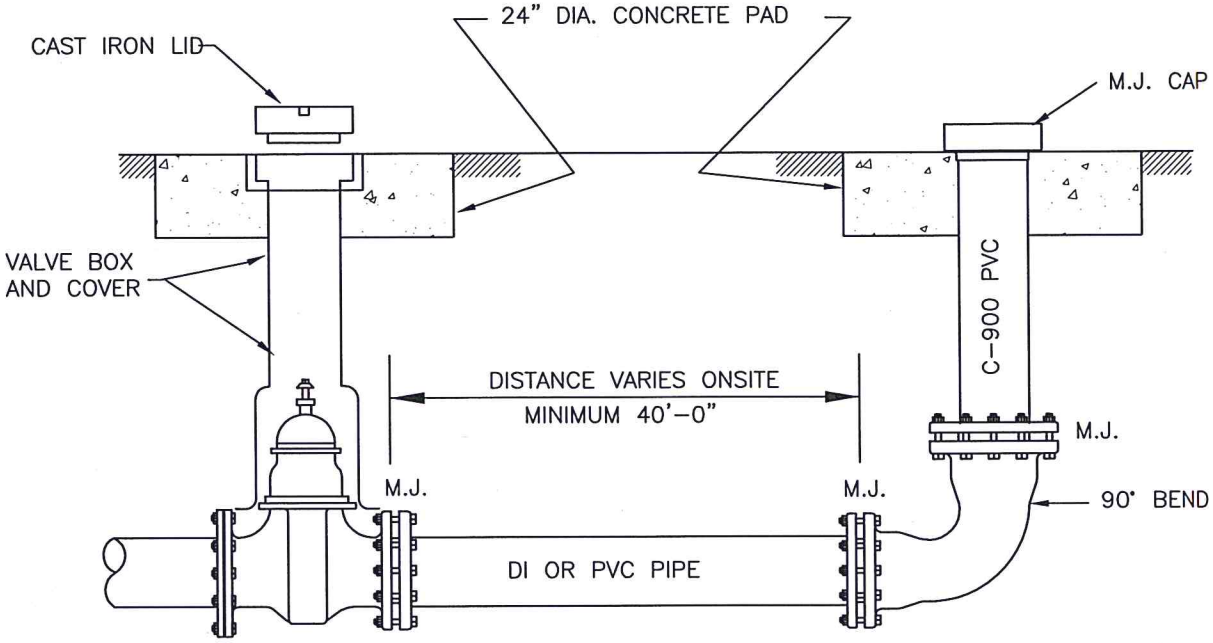
1. VALVE BOX SHALL BE B&H 340-1
2. EXTENSION REQUIRED WHEN VALVE OPERATING NUT IS GREATER THAN 4' FROM VALVE BOX COVER. UNLESS OTHERWISE NOTED ON PLANS, VALVE BOX EXTENSIONS SHALL BE CONSTRUCTED OF PVC C900.
3. ALL FITTINGS SHALL BE WRAPPED IN PLASTIC WHERE CONCRETE IS PLACED.
4. VALVE COLLARS LOCATED WITHIN THE ROADWAY SHALL BE 24"x24" SQUARE.

CITY OF KILLEEN
DEPARTMENT OF PUBLIC WORKS

TYPICAL VALVE SETTING

CONSTRUCTION STANDARDS AND DETAILS

W-04
SCALE: N.T.S.
ISSUE DATE: XX-XX-XX



NOTES:

1. VALVES TO BE RESILIENT SEATED GATE VALVE, (AWWA) EPOXY COATED INSIDE AND OUT, WITH A NON-RISING STEM.
2. CONCRETE NOT TO BE IN CONTACT WITH BOLTS OR NUTS.
3. ALL FITTINGS TO BE WRAPPED IN PLASTIC WHERE CONCRETE IS PLACED.
4. 90° BEND SHALL BE RESTRAINED.
5. VALVE COLLARS LOCATED WITHIN THE ROADWAY SHALL BE 24"x24" SQUARE.

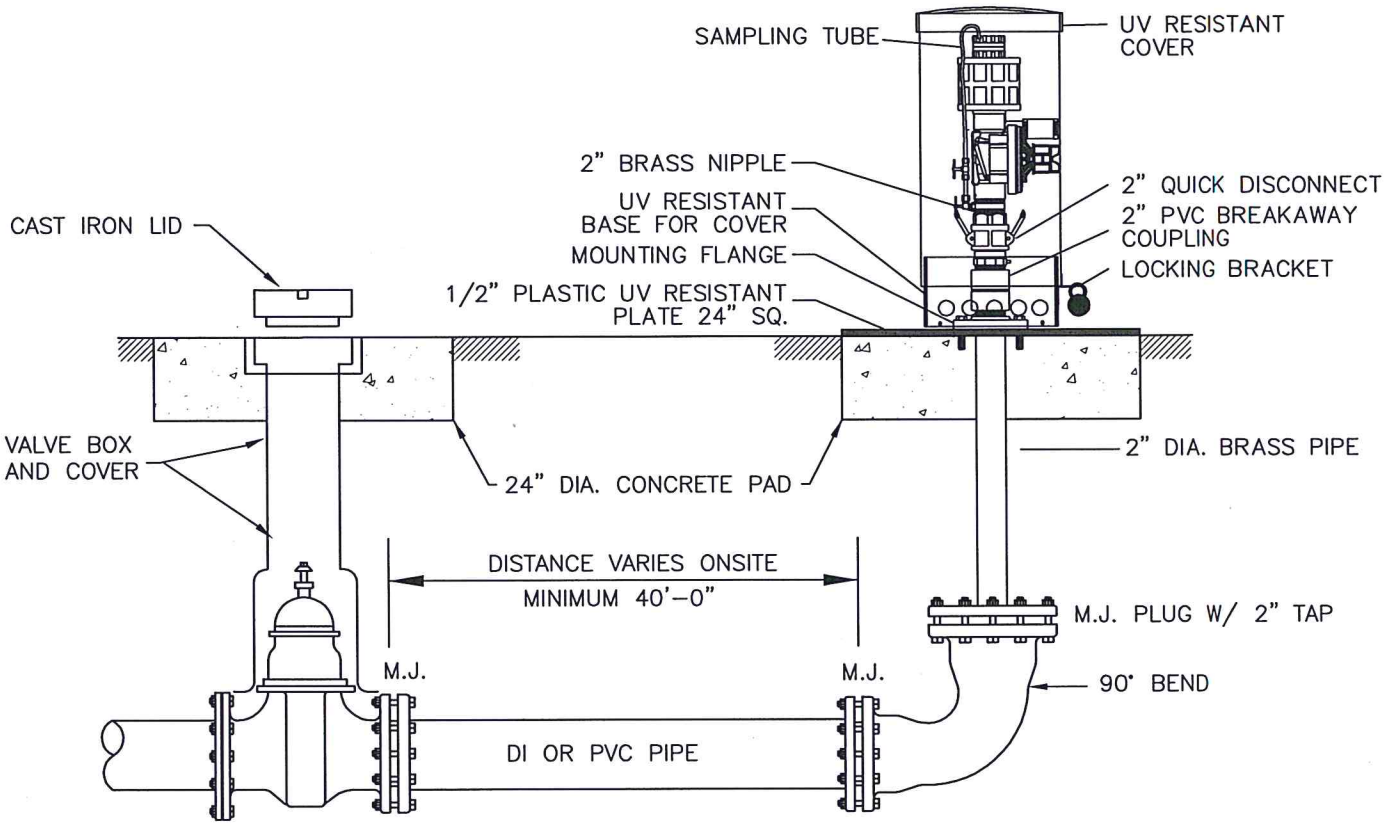
CITY OF KILLEEN
DEPARTMENT OF PUBLIC WORKS

STANDARD
FLUSH ASSEMBLY

CONSTRUCTION STANDARDS AND DETAILS

W-05
SCALE: N.T.S.
ISSUE DATE: XX-XX-XX

ECLIPSE WC 9400 AUTOMATIC FLUSHING DEVICE



NOTES:

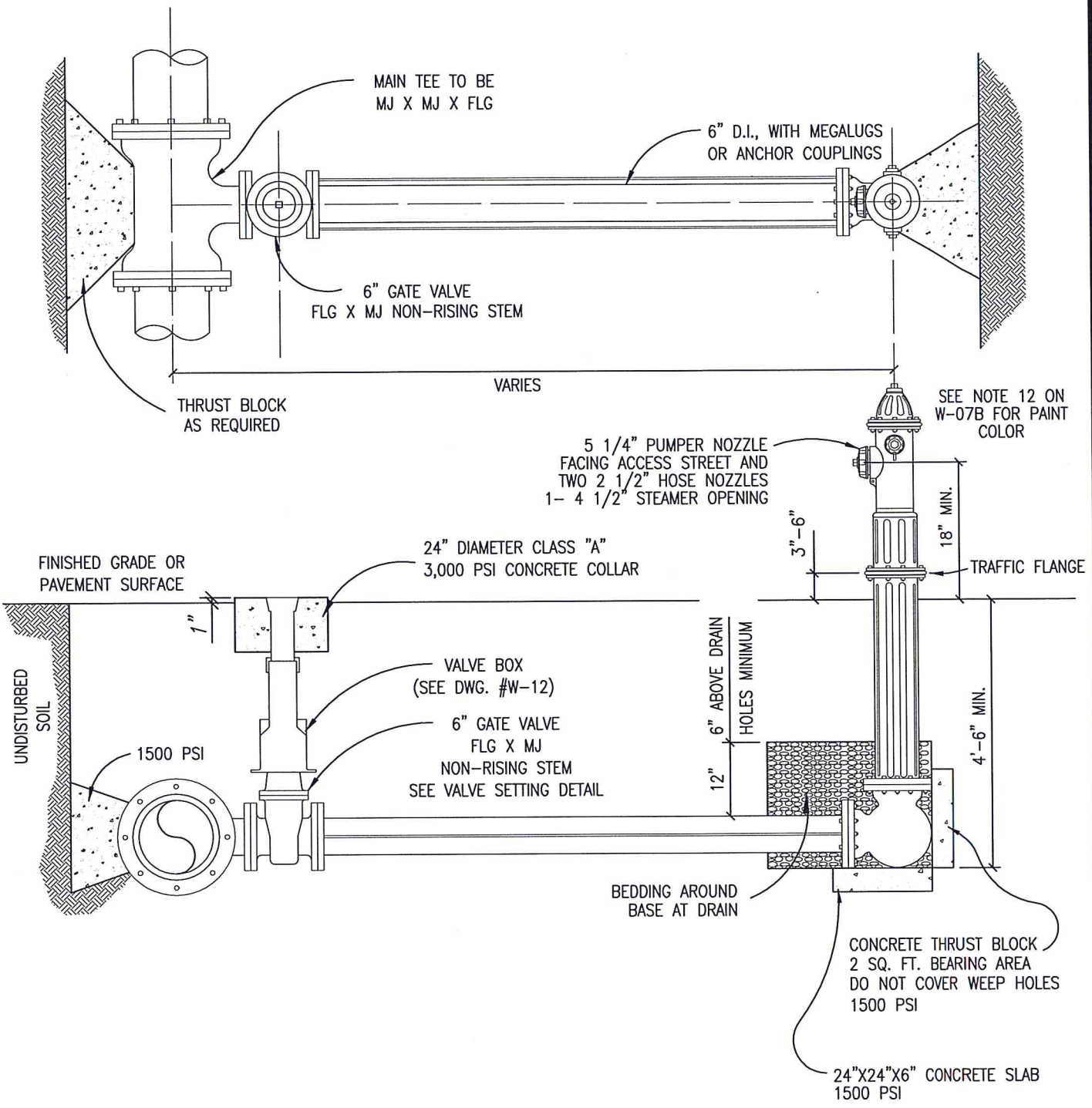
1. VALVES TO BE RESILIENT SEATED GATE VALVE, (AWWA) EPOXY COATED INSIDE AND OUT, WITH A NON-RISING STEM.
2. CONCRETE NOT TO BE IN CONTACT WITH BOLTS OR NUTS.
3. ALL FITTINGS TO BE WRAPPED IN PLASTIC WHERE CONCRETE IS PLACED.
4. 90° BEND SHALL BE RESTRAINED.
5. VALVE COLLARS LOCATED WITHIN THE ROADWAY SHALL BE 24"x24" SQUARE.

CITY OF KILLEEN
DEPARTMENT OF PUBLIC WORKS

AUTOMATIC FLUSH ASSEMBLY

CONSTRUCTION STANDARDS AND DETAILS

W-06
SCALE: N.T.S.
ISSUE DATE: XX-XX-XX



CITY OF KILLEEN
DEPARTMENT OF PUBLIC WORKS

TYPICAL FIRE HYDRANT INSTALLATION DETAIL

CONSTRUCTION STANDARDS AND DETAILS

W-07
SCALE: N.T.S.
ISSUE DATE: XX-XX-XX

NOTES:

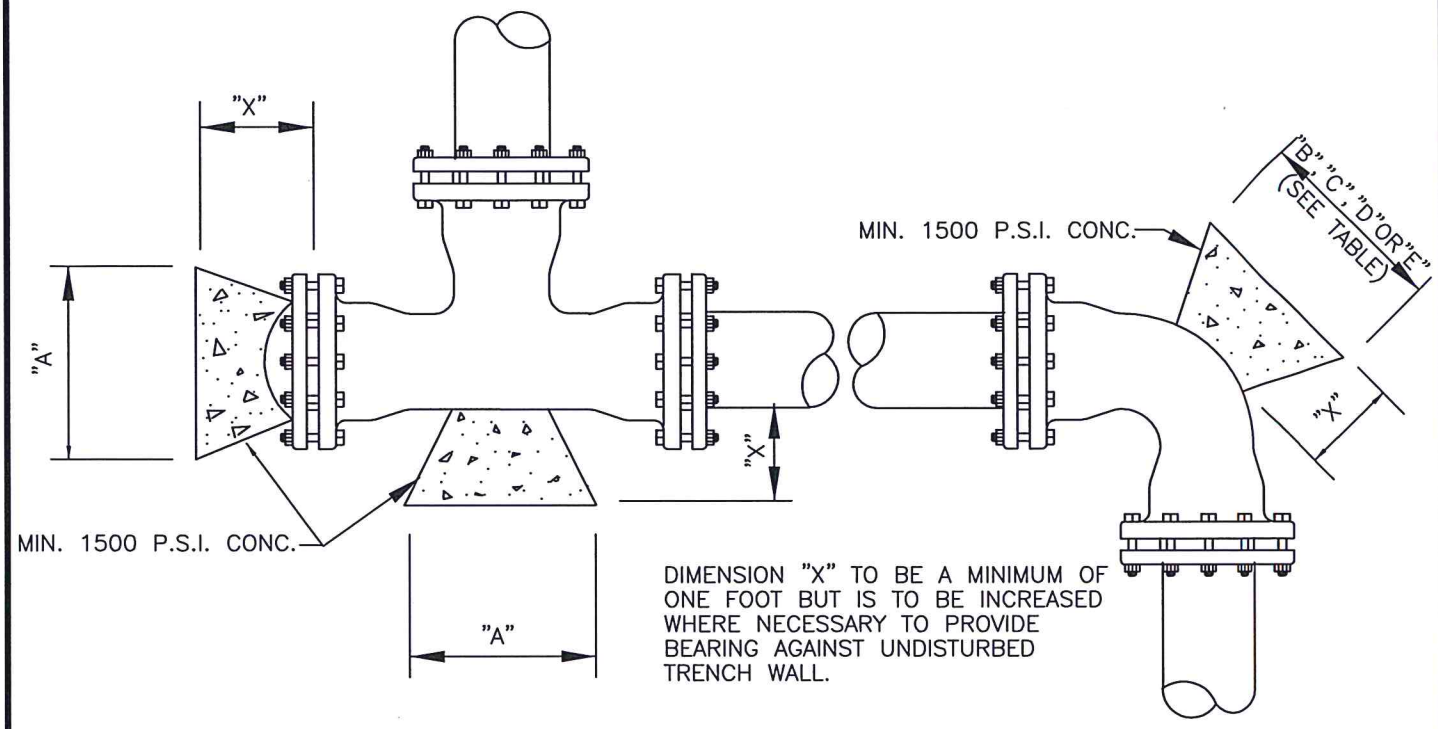
1. FIRE HYDRANT SHALL BE INSTALLED ON SAME SIDE OF ROAD AS WATER MAIN.
2. FIRE HYDRANT SHALL BE INSTALLED PLUMB AND TRUE.
3. HEEL AND THRUST BLOCKS TO REST IN UNDISTURBED SOIL.
4. FIRE HYDRANTS SHALL BE CLOW MEDALLION – F2548 (RUBBER SEAT ONLY) OR AMERICAN DARLING – B84B.
5. FIRE LINE SHALL HAVE JOINT RESTRAINT FROM MAIN TO HYDRANT.
6. BEDDING MATERIAL SHALL BE PLACED AROUND THE BOTTOM OF THE HYDRANT FOR A RADIUS OF AT LEAST 12", AND EXTEND AT LEAST 12" ABOVE THE OUTLET. DO NOT BLOCK DRAIN HOLES.
7. VALVE EXTENSIONS SHALL BE PLACED SUCH THAT THE OPERATING NUT IS NO MORE THAN 4'–0" FROM FINISHED GRADE.
8. FOR BURY DEPTHS GREATER THEN FIVE (5) FEET , ONE BARREL EXTENSION SHALL BE PROPERLY PLACED WHEN NEEDED TO ACCOMMODATE FIRE HYDRANTS.
9. CONCRETE SHALL NOT BE IN CONTACT WITH BOLTS OR NUTS.
10. ALL FITTINGS AND HYDRANT BOOT SHALL BE WRAPPED IN PLASTIC WHERE CONCRETE IS PLACED.
11. FIRE HYDRANT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
12. FIRE HYDRANT SHALL BE FACTORY PAINTED FLYNT ALLUMINUM FOR NOZZLE SECTION AND RUST PRIMER FOR BONNET.
13. FOR PARALLEL ASSEMBLY, ANCHOR 90 SHALL BE USED BETWEEN VALVE AND HYDRANT.
14. FIRE HYDRANT SHALL BE LOCATED 2 FEET TO 6 FEET BEHIND THE CURB.

CITY OF KILLEEN
DEPARTMENT OF PUBLIC WORKS

TYPICAL FIRE HYDRANT INSTALLATION – NOTES

CONSTRUCTION STANDARDS AND DETAILS

W-07B
SCALE: N.T.S.
ISSUE DATE: XX-XX-XX



DIMENSION "X" TO BE A MINIMUM OF ONE FOOT BUT IS TO BE INCREASED WHERE NECESSARY TO PROVIDE BEARING AGAINST UNDISTURBED TRENCH WALL.

HORIZONTAL BLOCKING TABLE

PIPE SIZE	"X" DIM.	PLUGS & TEES			90° BENDS			45° BENDS			22 1/2° BENDS			11 1/4° BENDS		
		"A"	MIN. AREA	MAX. VOL.	"B"	MIN. AREA	MAX. VOL.	"C"	MIN. AREA	MAX. VOL.	"D"	MIN. AREA	MAX. VOL.	"E"	MIN. AREA	MAX. VOL.
4"	1'–0"	1'–0"	.83	.05	1'–0"	.83	.05	1'–0"	.83	.05	1'–0"	.83	.05	1'–0"	.83	.05
6"	1'–6"	1'–0"	1.06	.06	1'–2"	1.50	.09	1'–0"	.83	.05	1'–0"	.83	.05	1'–0"	.83	.05
8"	1'–6"	1'–3"	1.89	.11	1'–6"	2.66	.15	1'–3"	1.44	.08	1'–0"	.83	.05	1'–0"	.83	.05
10"	1'–6"	1'–9"	2.95	.17	2'–0"	4.17	.24	1'–6"	2.26	.13	1'–3"	1.15	.07	1'–0"	.83	.05
12"	1'–6"	2'–0"	4.25	.24	2'–3"	6.00	.34	1'–9"	3.25	.18	1'–3"	1.65	.10	1'–0"	.83	.05
16"	2'–0"	2'–7"	7.54	.56	3'–0"	10.65	.79	2'–3"	5.76	.43	1'–8"	2.94	.22	1'–2"	1.48	.11
18"	2'–0"	2'–11"	7.70	.57	3'–5"	10.89	.82	2'–6"	5.89	.44	1'–10"	3.01	.22	1'–5"	1.51	.11
20"	2'–0"	3'–3"	7.86	.59	3'–9"	11.12	.84	2'–9"	6.01	.45	2'–0"	3.07	.23	1'–7"	1.54	.12
24"	2'–0"	3'–8"	11.33	.84	4'–3"	16.00	1.20	3'–2"	8.65	.65	2'–6"	4.42	.33	1'–10"	2.22	.17

NOTE: CALCULATIONS IN MIN. AREA COLUMN ARE IN SQUARE FEET.
CALCULATIONS IN MAX. VOL. COLUMN ARE IN CUBIC YARDS.

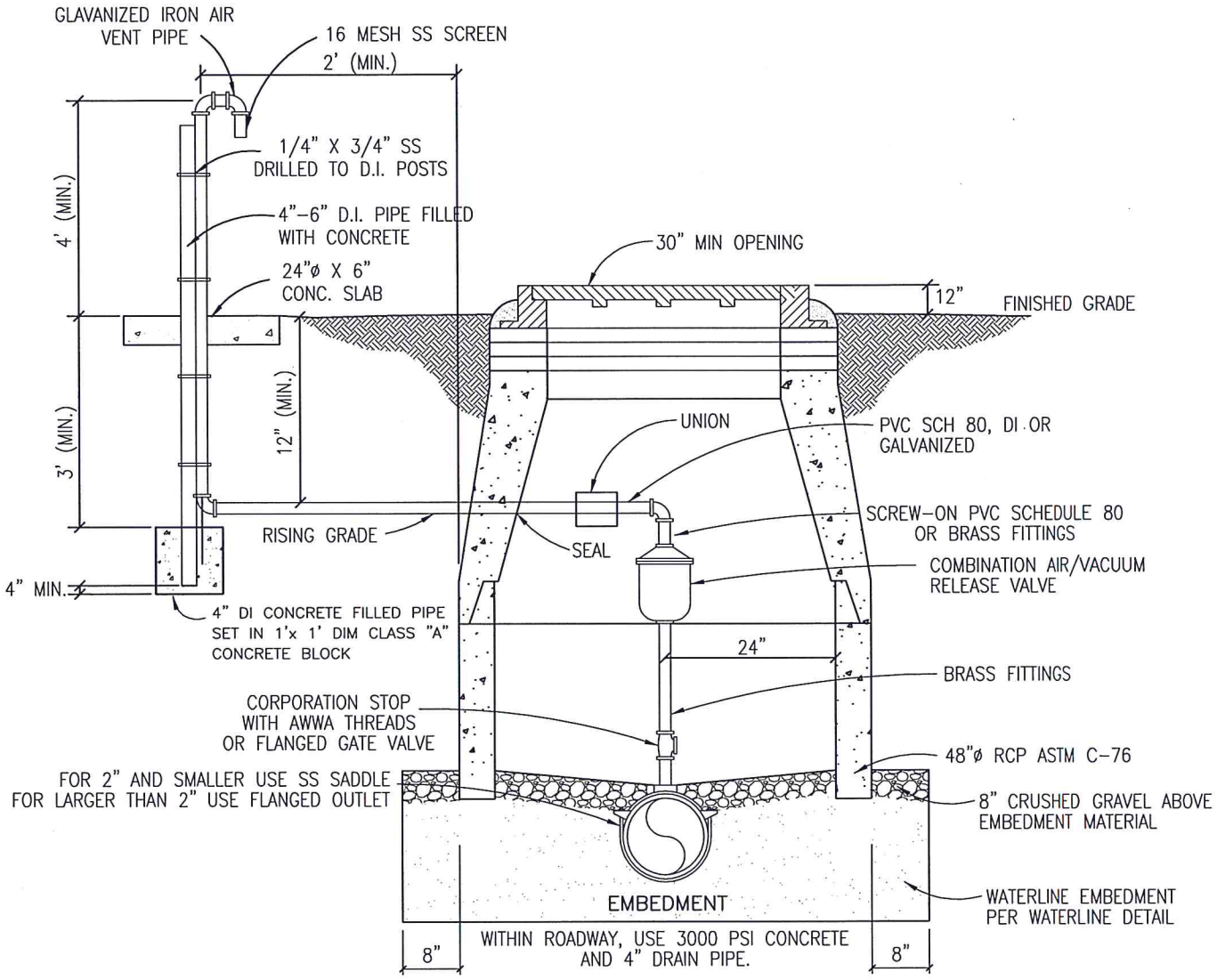
ALL FITTINGS SHALL BE WRAPPED IN PLASTIC WHERE CONCRETE IS PLACED.

CITY OF KILLEEN
DEPARTMENT OF PUBLIC WORKS

TYPICAL THRUST BLOCKS FOR WATER AND FORCE MAINS

CONSTRUCTION STANDARDS AND DETAILS

W-08
SCALE: N.T.S.
ISSUE DATE: XX–XX–XX



NOTE: ALL BRASS FITTINGS SHALL COMPLY WITH "NO LEAD" BRASS LAW (SDWA SECTION 1417(A)).

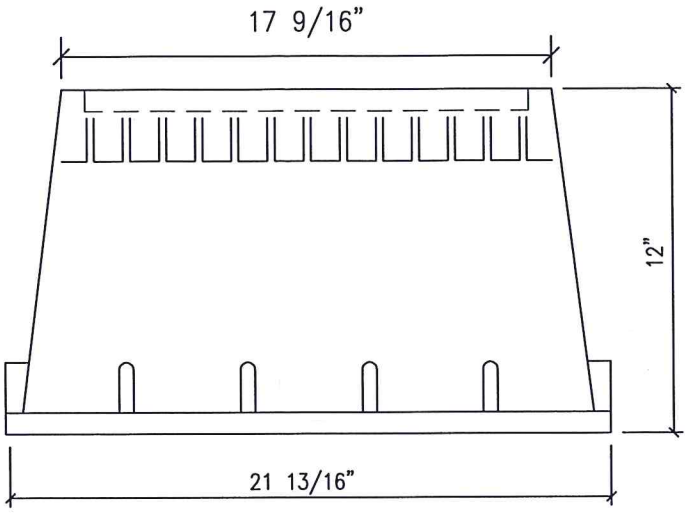
CITY OF KILLEEN
DEPARTMENT OF PUBLIC WORKS

STANDARD AIR RELEASE VALVE FOR WATER MAIN SIDE VENT

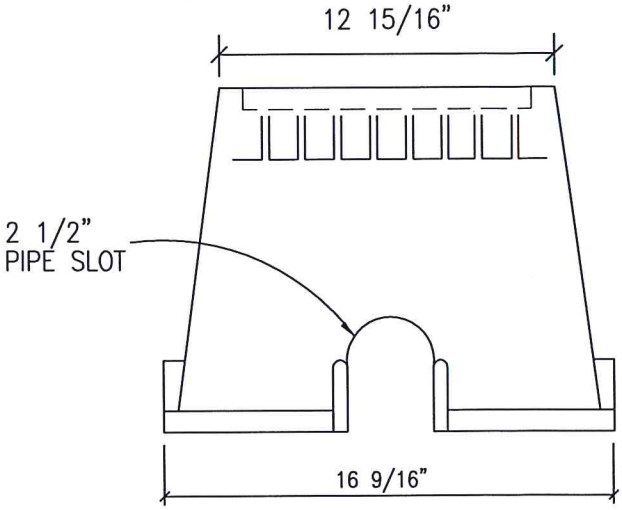
CONSTRUCTION STANDARDS AND DETAILS

W-09
SCALE: N.T.S.
ISSUE DATE: XX-XX-XX

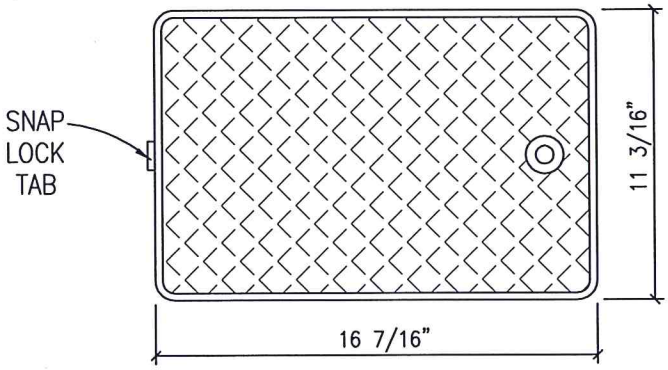
NOTE:
CONTACT CITY OF KILLEEN UTILITY DEPARTMENT TO OBTAIN WATER METER.



SIDE VIEW



FRONT



COVER

METER BOXES:

FOR RESIDENTIAL METERS – DFW PLASTINCS, INC. PART NO. 1300.12.1 STD PLASTIC RECTANGULAR BLACK BOX, BLACK COVER AND 2 1/2" PIPE SLOT OR APPROVED EQUAL.

FOR 1 1/2" METERS –1500 SERIES 12" JUMBO RECTANGULAR BOX WITH PLASTIC LID WITH PLASTIC READER.

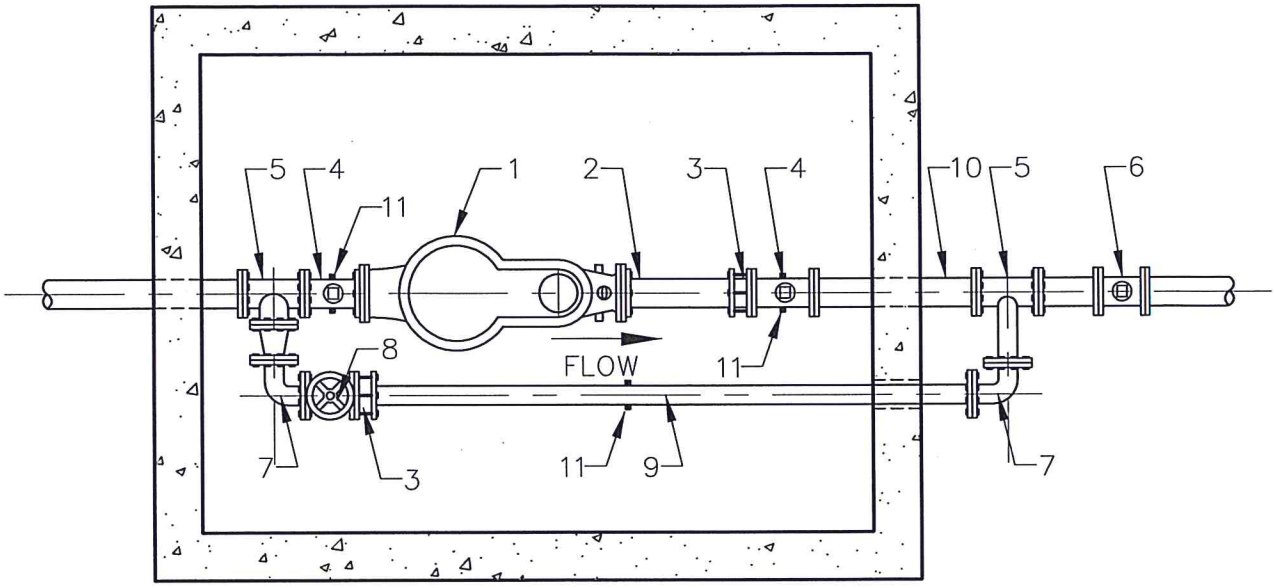
FOR 2" METERS – 1730C–18 METER BOX WITH CAST IRON LID WITH METER READER.

CITY OF KILLEEN
DEPARTMENT OF PUBLIC WORKS

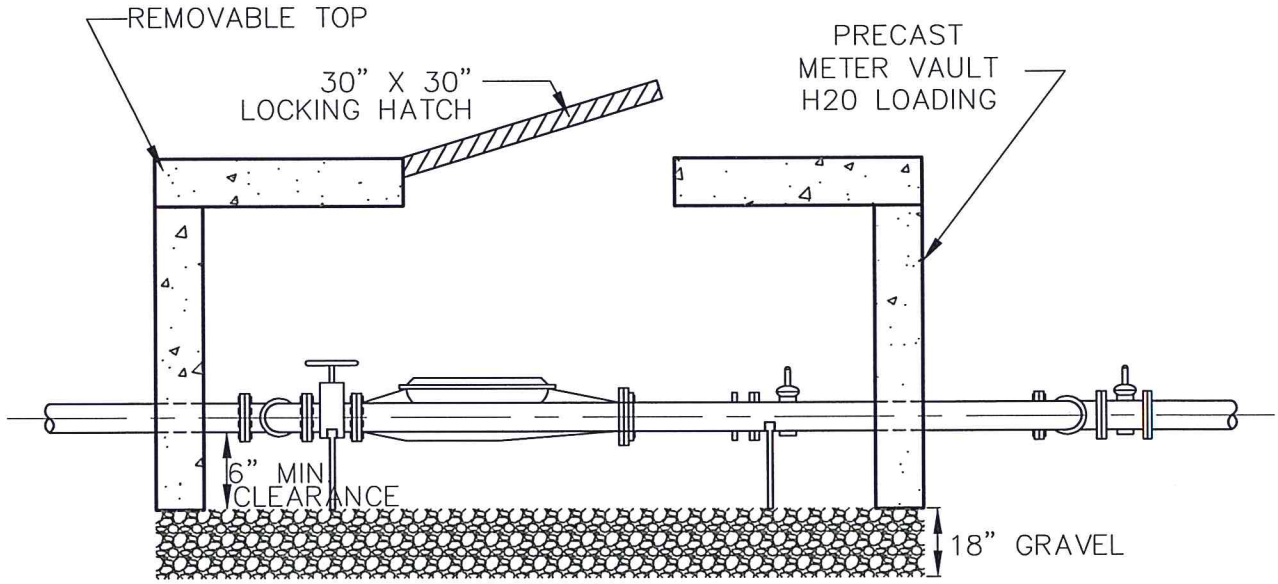
RESIDENTIAL METER BOX

CONSTRUCTION STANDARDS AND DETAILS

W–10
SCALE: N.T.S.
ISSUE DATE: XX–XX–XX



PLAN VIEW
NOT TO SCALE



ELEVATION
NOT TO SCALE

CITY OF KILLEEN
DEPARTMENT OF PUBLIC WORKS

METER VAULT
LAYOUT

CONSTRUCTION STANDARDS AND DETAILS

W-11
SCALE: N.T.S.
ISSUE DATE: XX-XX-XX

No.	DESCRIPTION
1.	METER
2.	FLANGED X PLAIN END
3.	FLANGED COUPLING ADAPTER
4.	FLANGED GATE VALVE
5.	FLANGED TEE
6.	PROPERTY OWNER'S GATE VALVE SQUARE NUT
7.	FLANGED ELBOW 90°
8.	BYPASS GATE VALVE WITH HANDWHEEL
9.	BYPASS DUCTILE IRON PIPE
10.	FLANGED SPOOL
11.	ADJUSTABLE PIPE STAND

NOTES:

1. PIPE AND METER SIZE SHALL BE AS DETERMINED BY OWNER/ENGINEER. BYPASS SHALL BE ONE PIPE DIAMETER SMALLER THAN MAIN.
2. METER VAULT MUST BE BEHIND CURB AND/OR WALK AND OUT OF VEHICULAR TRAFFIC.
3. MAIN LINE AND BYPASS VALVES SHALL BE RESILIENT SEAT TYPE WITH CORROSION RESISTANT FUSION BANDED EPOXY COATING INSIDE AND OUTSIDE, NON-RISING STEM. MAIN LINE VALVES SHALL HAVE SQUARE OPERATING NUTS. BYPASS VALVE SHALL HAVE A HANDWHEEL. PROPERTY OWNER'S VALVE SHALL BE LOCATED OUTSIDE OF THE METER VAULT.
4. METER SHALL BE MODIFIED TO READ FROM TOP OF VAULT.
5. HATCH OPENING SHALL BE 30" X 30".
6. IRON PIPE TAPPING SLEEVE IN STREET RIGHT-OF-WAY SHALL BE PROPERLY BEDDED.
7. ALL FITTINGS INSIDE VAULT SHALL BE FLANGED
8. NOTCHES WHERE PIPING GOES THROUGH VAULT SHALL BE FILLED WITH MORTAR.
9. THE TOP OF THE METER VAULT SHALL BE SET AT AN ELEVATION SUCH THAT THE SURROUNDING GROUND SLOPES AWAY FROM THE VAULT.
10. IF METER VAULT IS MORE THAN 3' DEEP, PERMANENT LADDER SHALL BE INCLUDED AS PART OF THE INSTALLATION.

CITY OF KILLEEN
DEPARTMENT OF PUBLIC WORKS

METER VAULT
NOTES

CONSTRUCTION STANDARDS AND DETAILS

W-12
SCALE: N.T.S.
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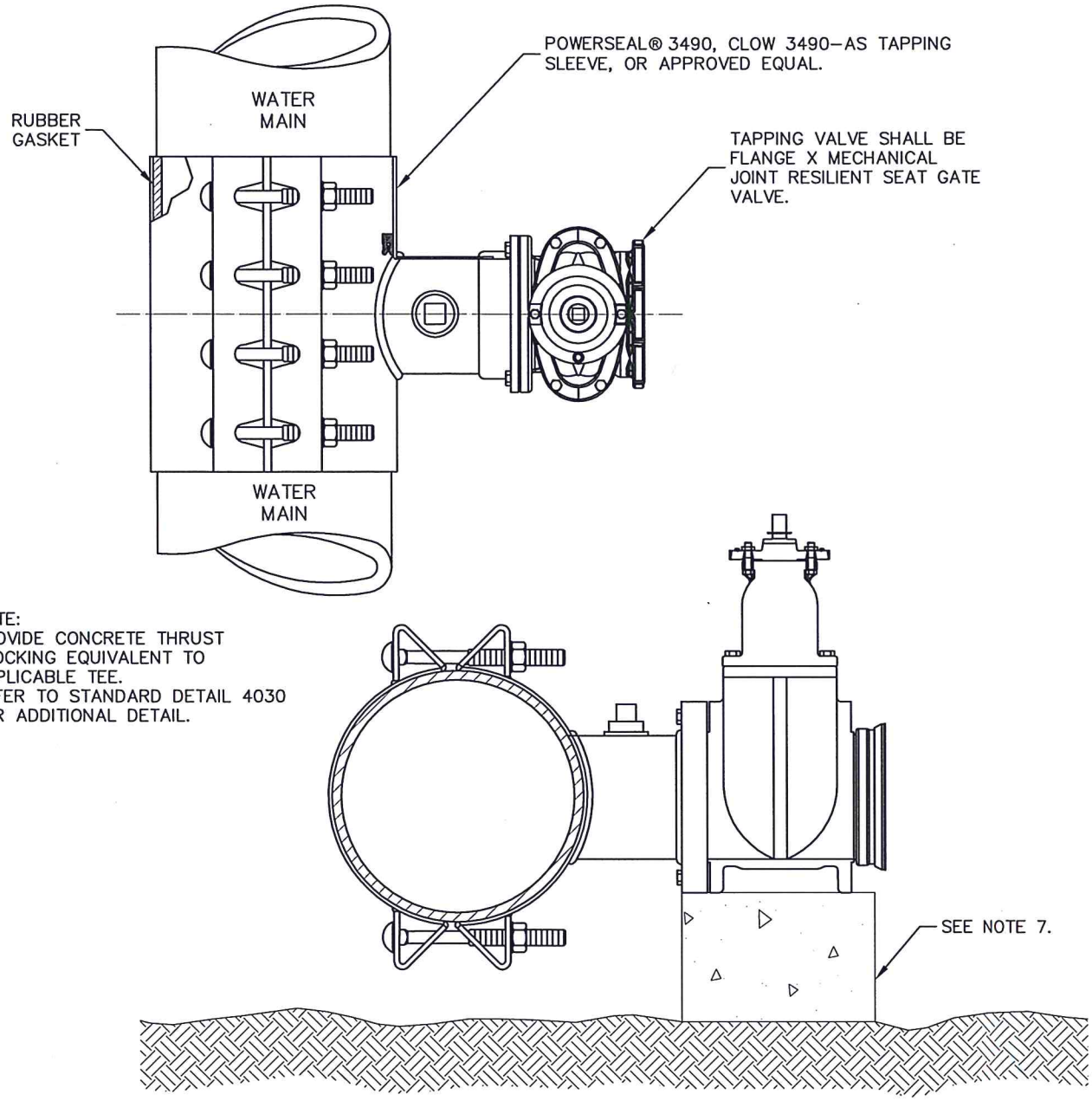

NOTE:
PROVIDE CONCRETE THRUST BLOCKING EQUIVALENT TO APPLICABLE TEE.
REFER TO STANDARD DETAIL 4030 FOR ADDITIONAL DETAIL.

GENERAL NOTES:

1. TAPPING SLEEVE SHALL BE CONSTRUCTED OF 304 STAINLESS STEEL. DUCTILE FLANGE IS PERMISSIBLE.
2. RUBBER GASKET SHALL BE A 360° COMPLETE FULL CIRCLE. DO NOT USE GREASE OR PIPE LUBRICATES ON GASKET.
3. BRANCH SHALL BE A MINIMUM 3/8" LARGER THAN NORMAL TO ALLOW FOR FULL SIZE CUTTER HEAD.
4. TAPPING SLEEVE SHALL BE SUPPLIED WITH FLANGE FACE ON BRANCH.
5. TAPPING SLEEVE SHALL HAVE A FLANGE FACE GASKET PERMANENTLY ATTACHED TO SLEEVE AT FACTORY.
6. LUGS SHALL BE STRUCTURALLY WELDED TO THE SHELL OR BOLTED.
7. VALVE AND TAPPING EQUIPMENT SHALL BE SUPPORTED BY BLOCKING DURING AND AFTER INSTALLATION.
8. THOROUGHLY CLEAN WATER MAIN WITH WIRE BRUSH PRIOR TO INSTALLATION OF TAPPING SLEEVE.
9. FLANGE FACE SHALL BE INSTALLED VERTICALLY TRUE AND PLUMB.
10. TAPPING SLEEVE SHALL NOT BE INSTALLED WITHIN 4 (FOUR) PIPE DIAMETERS OF AN EXISTING PIPE BELL UNLESS APPROVED OTHERWISE.

CITY OF KILLEEN
DEPARTMENT OF PUBLIC WORKS

TAPPING SLEEVE AND VALVE

CONSTRUCTION STANDARDS AND DETAILS

W-13
SCALE: N.T.S.
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